

Review of the Irrigated Lands Waiver

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Two Years After Adoption of the Irrigated Lands Waiver

- What do we now know about the quality of agricultural discharges?
- Have Coalitions complied with the explicit requirements of the adopted waiver?
- Have water quality conditions shown any actual or prospective improvement?
- Is the waiver salvageable or does it contain the seeds of its ultimate failure?

Are Standards Protective?

- EPA Aquatic Life Standards are based upon a never to exceed more than once in three years.
- Water Quality standards do not consider multiple stressors, additive or synergistic effects, breakdown products or sub-lethal effects.
- Monthly monitoring (chemistry and toxicity) represents less than a six-hour snapshot of a years flow. Pollution is frequently a pulse event.

Regional Board Monitoring

Phase I and II monitoring conducted by UC Davis.

- **Phase I. 2003:** 24 agricultural drains monitored for field parameters, flow, chemistry, pesticides, two-species toxicity testing. Eight events, 234 samples.
 - **29% of sites toxic (higher if sediment toxicity included).**
 - 100% of sites exceeded one or more water quality standards** (for example: 77% of sites had low dissolved oxygen, 42% of sites had low pH).
- **Phase II. 2004:** 30 agricultural drains monitored for field parameters, flow, chemistry, pesticides, three-species toxicity testing (chemistry not yet reported). Five events, 135 samples – missed early irrigation season - have not reported wet season.
 - **80% of sites were toxic. 97% of sites violated standards.**

Sediment Testing

- In a parallel and cooperative effort with Regional Board monitoring, Don Weston (UC Berkeley) conducted a series of assessments of sediment toxicity in agriculturally dominated waterbodies.
- Dr. Weston found pervasive sediment toxicity.
 - For example, in 2003, acute sediment toxicity was found in major rivers, 8 of 19 creeks and sloughs sampled and 7 of 17 irrigation canals. *Environ. Sci. Technol.* **2004**, 38, 2752-2759
- Pyrethroids were found to be the major toxicant.

Westside, San Joaquin River Coalition

550,000 acres (**32,353 acres per monitoring site**)

- Majority of sites are natural waterbodies rather than Ag drains.
 - 17 sites monitored twice during irrigation season.
 - Four sites were monitored monthly between September and January.
 - 15 sites monitored for two storm events.
 - 14 sites monitored for sediment toxicity in September.
- **100% of the sites violated one of more water quality standards. 59% of sites exhibited toxicity.**

Eastside, San Joaquin River Coalition

660,000 acres (**165,000 acres per monitoring site**)

- Mixture of natural waterbodies and Ag drains
(Ex. Merced River, Dutchman' Creek)
 - Four sites monitored three times during irrigation season.
 - Storm season not yet reported.
- **50% of irrigation season sites exhibited toxicity. 100% violated one or more water quality standards.**

Sacramento-Valley Coalition

2,145,000 acres (**306,429 acres per monitoring site during irrigation season – 134,063 acres per monitoring site during storm season**).

- Mixture of natural waterbodies and Ag drains (Ex. Feather River, Butte Creek, Sacramento Slough, etc.)
 - 7 sites (of which 3 were approved) monitored twice during irrigation season.
 - 16 sites (14 approved) monitored for two storm events (only one data set submitted).
 - No sediment toxicity monitoring.
- **74% of sites violated one or more water quality standards. 47% of sites exhibited toxicity.**

Rice Coalition

500,000 acres (**100,000 acres per monitoring site**)

- Unique truncated monitoring requirements approved by XO.
 - 5 sites monitored twice during irrigation season (Sept. & Oct.) for general parameters, toxicity, and rice pesticides.
 - Storm season sampling not yet reported.
 - No follow-up sampling where toxicity observed, no TIEs.
- **100% of sites exhibited toxicity.** Other parameters exceeded include low pH & dissolved oxygen.

San Joaquin County-Delta Coalition

558,575 acres (**93,097 acres per monitoring site**)

- Natural waterbodies – (Ex. Mokelumne River, Calaveras River, Lone Tree Creek, Little Johns Creek).
 - Failed to monitor Delta Islands
 - Six sites sampled twice during irrigation season.
 - **No agricultural drains or delta islands monitored.**
- **50% of sites exhibited toxicity** (sampling occurred late in season).
- Storm season not yet reported (although the Board has been advised that significant toxicity was found).

South San Joaquin Valley Coalition

4,400,000 acres (**440,000 acres per monitored site**)

■ Tule subgroup:

- Two sites monitored twice during irrigation season (late) and once during storm season. **Both sites exhibited toxicity, low dissolved oxygen, and high coliform.**

■ Kaweah subgroup:

- Four sites monitored once during irrigation season (late) and twice during storm season. **Three sites exhibited toxicity** and one had low dissolved oxygen.

■ Kings River subgroup:

- Two sites monitored twice during irrigation and storm season plus two sediment samples. **All four sites twice exhibited toxicity.**

Other Coalitions

- Westlands Coalition has failed to comply with Waiver, NOA & MRPP.
- Root Creek Coalition has failed to comply with Waiver, NOA & MRPP.
- 5 Irrigation Districts (Modesto, Merced, Turlock, SSJID & OID).
 - Individual waiver unsuitable for irrigation districts.
 - Insufficient information exists to evaluate the submittals by water agencies.
 - No toxicity testing. However, data submitted by **Oakdale and Modesto Irrigation Districts** revealed that all monitored sites exceeded at least one water quality standard.

Have Coalitions complied with the explicit requirements of the adopted waiver?

- The coalitions have failed to:
 - Comply with the monitoring and reporting provisions of the waiver.
 - Provide specific drainage schematics and identification of adjacent fields.
 - Monitor agricultural drains (instead of natural waterways).
 - Document specific sources of pollution.
 - Describe a detailed plan of actions that will be taken to address identified violations.
 - Identify currently applied BMPs, propose new BMPs or describe how BMP effectiveness will be monitored.

Monitoring Sites

- The Monitoring and Reporting Program explicitly states that monitoring sites should not include mainstem waterbodies already on 303(d) list. Monitoring sites must be on waterbodies carrying agricultural drainage into natural waterbodies. M&R Program (I)(8).
- *Every single coalition has ignored this explicit requirement.*

Monitoring Sites II

- The Monitoring and Reporting Program states that **all major drainages** shall be part of baseline monitoring. **20% of intermediate drainages** shall be monitored on a rotating basis each year. Smaller drainages must be monitored if data from larger drainages or receiving waters shows exceedances. Site selection shall be supported by detailed discussion and scientific rationale. M&R Program (I)(8).
- *Every single coalition has ignored these fundamental requirements.*

Communication Reports

- Whenever monitoring indicates WQ exceedances, coalition groups must submit a Communication Report that describes how the group will evaluate the effectiveness of management practices. M&R Program 3.2
- Staff's 23 June 05 Information Report provides substantial insight into the failure of coalitions to furnish timely Communication Reports. However, **not a single coalition has provided details on how it will evaluate the effectiveness of selected management practices.**

Management Plans

- The Waiver states, “When an exceedance of a receiving water limitation is identified, coalitions shall, upon notice by the Regional Board XO, submit a technical report called a Management Plan. The Management Plan – shall evaluate the effectiveness of existing management practices in achieving WQ objectives and identify additional actions (i.e., additional management practice implementation) the coalition proposes to implement to achieve water quality objectives. Shall include a waste specific monitoring plan and implementation schedule to address exceedances.” Resolution No. R5-2003-0105 (B)(6).
- *Despite massive and frequent exceedances of WQ standards throughout the Central Valley, no Management Plan has ever been requested by the Regional Board nor provided by the Coalitions.*

Implementation Plans

- Coalitions groups are required to develop an implementation plan to identify and track the progress of water quality management practices within the watershed. The plans must include a schedule for implementation of management practices.
- *Not as single coalition has submitted an Implementation Plan.*

Monitoring Parameters

- The Monitoring and Reporting Program specifies the constituents to be monitored and the frequency of sampling. Representative flow measurements (in cfs) must be obtained for each sample to allow for mass load calculations. M&R Program (I)(4).
- *Not all coalitions have monitored for all constituents. Most coalitions have failed to meet required monitoring frequency. Few have provided flow measurements. None calculated loads.*

Annual Monitoring Report

- Coalitions are required to submit an Annual Monitoring Report by 1 March. The AMR includes 17 specific components. For example, it requires a summary of management practices used and actions taken to address identified water quality impacts (including revised or additional management practices to be implemented).
- *Not a single coalition has complied with the above mandatory requirements.*

Have water quality conditions shown any actual or prospective improvement?

- Neither we nor Regional Board staff can identify a single BMP implemented as a result of the waiver.
- Coalitions are unable to identify who has or has not implemented specific management measures within a watershed.
- Coalitions have no legal authority to compel implementation of management measures.

**Is the waiver salvageable or
does it contain the seeds of its
ultimate failure?**

Waivers turn Porter-Cologne on its head

- The bed-rock of Porter-Cologne is that everyone proposing to discharge wastes into waterways must:
 - Ask permission
 - Identify constituents to be discharged
 - Monitor the discharge to evaluate impacts
 - Comply with limits or implement measures to reduce or eliminate problems.
- The preceding applies to everyone - municipalities, industry, mom-and-pop businesses - except farmers.

Problems I

- Board has essentially ceded its statutory responsibility to protect waterways to industry advocacy groups (i.e., “Coalitions.”)
- The Regional Board doesn’t know:
 - Who is discharging pollutants.
 - What pollutants are being discharged.
 - Who is participating in the waiver program.
 - Who has or has not implemented BMPs.

Problems II

- Coalitions are legally fictitious entities.
 - Are not subject to Board enforcement.
 - Cannot require farmers to implement management measures.
 - Have no authority to enforce against violators.
- Coalitions have operated to impede staff efforts, hide the farmer and shield recalcitrant dischargers from potential Board enforcement.

Problems III

- Lack of farm based pollution prevention plans ensure that individual farmers lack the nexus and incentive to focus on preventing pollution.
 - Note: farmers already required to prepare nutrient and pesticide plans.
- There is no mechanism in the waiver to require anyone to implement a single management measure or reduce a single pound of pollution.
- Since the Regional Board doesn't know who is discharging what, there can be no enforcement.

Problems IV

- Failure to establish an independent third-party monitoring program has undermined efforts to identify and track water quality problems.
 - Coalitions have failed to comply with monitoring and reporting requirements.
 - Monitoring has focused on natural waterways rather than agricultural drains.
 - Monitoring has avoided numerous known hot spots (i.e., Butte Canal laterals, Delta Islands).
 - Lack of edge-of-field monitoring precludes identification of specific sources of pollution and assessment of BMP effectiveness.

Problems V

- Regional Board lacks resources to administer and enforce a complicated voluntary program.
 - Work plan identifies 34 PYs as minimally necessary. 19 PYs are authorized, 13 PYs funded by waiver fees.
 - A General Order would require fewer resources and be fully enforceable.

Waiver Extension?

- The Waiver expires in December. Board staff have indicated that they will seek a two year extension.
- If this waiver is to be extended, the Board, at a minimum, should require that:
 - All NOIs must be filed with the Board
 - Monitoring be conducted by an independent third party.
 - Enrollees prepare individual farm-based Pollution Prevention Plans.

These items are included in the waiver adopted by the Central Coast Regional Board.

Recommendation

- We believe a General Order is the most effective and enforceable approach for addressing agricultural pollution.
- Board staff developed a potential General Order as an informational item, six months after the Waiver was adopted.
- Efforts to extend the existing Waiver must evaluate and compare the effectiveness, enforceability, costs and efficacy of the Waiver with the potential General Order.

In any case...

- Any extension of the Waiver must consider that the fact set today is very different than it was two years ago. We now know that:
 - Agricultural pollution is pervasive. Cropping patterns and chemical usage are changing.
 - Coalitions have refused to comply with fundamental waiver requirements.
 - Pollution sources remain unidentified and no BMPs have been implemented.
 - Board staff have developed a proposed General Order that can be compared against the waiver.
- Regardless, the old Neg Dec will not suffice.